

WHAT IS CLAIMED IS:

1. A composition for sealing a semiconductor device having thermoplastic properties and a line expansion coefficient of $6.0 \times 10^{-5} [1/^{\circ}\text{C}]$ or less at a temperature of 80°C to 130°C .

2. A composition for sealing a semiconductor device according to claim 1, wherein the line expansion coefficient $4.75 \times 10^{-5} [1/^{\circ}\text{C}]$ or less at a temperature of 150°C to 200°C .

3. A composition for sealing a semiconductor device according to claim 1, wherein a line expansion coefficient ratio between a flow direction and a normal direction of the flow direction is 0.55 or more.

4. A composition for sealing a semiconductor device according to claim 1, wherein the composition has a bending strength after solidification is 74 MPa or more.

5. A composition for sealing a semiconductor device according to claim 1, wherein an adhesion imparting agent is added to improve adhesion properties to another material by binding with a polar group.

6. A composition for sealing a semiconductor device according to claim 1, further containing silica particles.

7. A composition for sealing a semiconductor device according to claim 1, further containing a fibrous material.

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8. A composition for sealing a semiconductor device according to claim 1, further containing a thermosetting resin material.

5 9. A composition for sealing a semiconductor device according to claim 1, wherein a product obtained by multiplying a value of a line expansion at 25 to 80°C plus a line expansion at 80-125°C after solidification, by a bending strength is 25 MPa or less.

10 10. A semiconductor device comprising:
a semiconductor element;
a semiconductor resin composition for sealing the semiconductor element; and

15 a conducting material electrically connected to the semiconductor element one end of which is sealed with the semiconductor resin composition,

wherein the semiconductor sealing resin composition has thermoplastic properties and a thermal expansion coefficient is $6.0 \times 10^{-5} [1/^\circ\text{C}]$ or less at a temperature of 80 to 130°C.

20 11. A semiconductor device according to claim 10, wherein the semiconductor sealing resin composition has thermoplastic properties and a thermal expansion coefficient at 150 to 200°C is $4.75 \times 10^{-5} [1/^\circ\text{C}]$ or less.

25 12. A semiconductor device according to claim 10, wherein the semiconductor sealing resin composition has thermoplastic properties and a line expansion

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13. A semiconductor device according to claim 10,
wherein a bending strength of the semiconductor
sealing resin composition after solidification is 74
MPa or more.

15. A semiconductor device according to claim 10,
wherein the semiconductor sealing resin composition
contains silica particles.

17. A semiconductor device according to claim 10,
wherein the semiconductor sealing resin composition
contains a thermosetting material.

19. A semiconductor device according to claims 10 to 13, wherein the semiconductor sealing resin composition is thermoplastic and a product obtained by multiplying a value of a line expansion at 25 to 80°C

plus a line expansion at 80-125°C after solidification,
by a bending strength is 25 MPa or less.

20. A method of manufacturing a semiconductor
device comprising the steps of:

5 electrically connecting a semiconductor element
and a conducting material; and

sealing the semiconductor element with a thermo-
plastic semiconductor sealing resin composition and
a line expansion coefficient at 80 to 130°C is
10 6.0×10^{-5} [1/°C] or less.

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